A CASE OF CEREBRO-SPINAL MENINGITIS

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The isolation of the meningococcus in Trinidad, and its apparent association with a pathological condition in the ear, render the following case of some interest.

Patient, male, *aet.* 47, admitted to Hospital on 17th November, 1925, with pain, tenderness and swelling over right mastoid, and a history of headache and pain and discharge from right ear for two weeks, temperature normal. With local treatment the discharge lessened, but the headache increased in intensity. Temperature continued normal until the morning of 26th, when it rose to 101-103° F., with obvious signs of meningitis, e.g., vomiting, convulsions, coma, rigidity of muscles of back and neck, strabismus, and Kernig's sign. The pupils were dilated. Lumbar puncture was at once performed and about 30 c.c. fluid withdrawn. The discharge from the ear was, unfortunately, not submitted to bacteriological examination. There was no discharge from the urethra. Death occurred at 2.20 p.m. on 27th.

The cerebro-spinal fluid escaped under pressure. It was turbid and purulent and contained globulin and albumin. Smears made from the centrifugalized deposit stained with methylene blue and by Gram's method showed numerous leucocytes—polynuclears 90 per cent.—and small bean-shaped gram-negative diplococci arranged in pairs or, occasionally, in fours, both intra- and extra-cellularly. Cultures were made, half-an-hour after withdrawal, on ordinary agar, 2 per cent. glucose hydrocele fluid agar, ' vitamin ' blood agar and Gordon's trypsin legumin agar. There was no growth on ordinary agar in forty-eight hours. On glucose hydrocele agar typical small, grayish, finely granular, viscid, discrete colonies were seen, on ' vitamin ' blood agar, in twenty-four hours, the colonies were somewhat larger with a ground glass appearance. On Gordon's

trypsin legumin agar they were circular, moist, greyish and translucent. Stained smears from these cultures showed gram-negative cocci with the morphological appearance of the meningococcus. Through the lack of agglutinating sera serological tests were, unfortunately, not done. Subcultures were made into glucose, lactose, mannite, laevulose and saccharose ; glucose and lactose were alone fermented, giving the sugar reactions characteristic of the meningococcus.

Post Mortem, permitted only on the head, revealed a basal purulent meningitis, extending to the Pons and Cerebellum and into the Sylvian fissures, with the blood vessels greatly engorged with blood. The lateral ventricles were distended. There was no cerebral abscess, no localization of the exudate to the right side, and no evidence of lateral sinus septic thrombosis. The exudate at the base of the brain showed gram-negative diplococci. The spinal fluid was also turbid and purulent and the exudate was seen extending into the cervical region. Sections made through the mastoid showed a few cells in the upper part with a brownish purulent material which *also contained gram-negative, bean-shaped diplococci.* Cultures from this material on the above media proved negative.

The case seemed to have been one of otitis media with cerebro-spinal meningitis, both due to the meningococcus. Stitt mentions that ' the meningococcus may cause otitis media.' Park and Williams state that ' the finding of gram-negative cocci in the cerebro-spinal fluid either intra- or extra-cellularly is presumptive evidence of meningococcal meningitis,' and Muir and Ritchie that ' the presence of gram-negative cocci, especially within the cells, is practically diagnostic of a case of cerebro-spinal meningitis ' ; such also is the opinion of Gaskell, Treadgold and Arkwright, as reported by the Medical Research Committee.